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WORKING-CLASS FOOD CONSUMPTION FROM 1942 TO 1949

From 1940 to 1949 the Ministry of Food undertook a large-scale inquiry into the food consumption of working-class households, the main results of which are set out in the *First Report of the National Food Survey Committee.*[1] It is interesting to compare these data with those that were obtained by the Institute of Statistics[2] from their small annual surveys into working-class household expenditure during the same period, particularly since such a comparison should give some idea of the usefulness, or otherwise, of small selected samples in this field. It is clear that samples dealing with something like 200 families or less cannot provide as convincing a picture as samples covering from 6000 to 9000 families; but is it possible to obtain in the social field pointers of wider usefulness by means of very small samples ? This is the question which we shall here attempt to answer.

Not only the size and the structure of the M.F. and the I.S. samples but also the methods by which these samples were obtained, were strikingly different. The M.F. samples were large, continuous in time, and randomized; the I.S. samples were small, to some extent continuous with respect to the family units that composed the samples, and selected. Moreover, the families of the I.S. samples contained per family between 0.7 and 1.3 dependent children more than the families of the M.F. samples. It was not therefore to be expected that the two inquiries would yield figures of food consumption that, for practical purposes, would be identical. Both groups of samples were drawn from families of urban industrial workers, and considering the differences in the average sizes of the families one could assume that the families of the I.S. samples were, on the average, poorer than those of the M.F. samples. Did this affect their consumption of basic foods and, especially, of the main rationed foods ? What effect, if any, had the family structure—*e.g.*, the larger average number of young children in the one set of samples—on the pattern of purchases ? How are seasonal fluctuations reflected in the samples that were discontinuous in time ? Even assuming that the two surveys can be taken as representative specimen of two reasonably well circumscribed universes, these questions would call for an answer. But, of course, there remains the basic question : can it be shown at all, whether or not they do represent such universes ?

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[1] H.M.S.O., 1951. In future it will be referred to simply as *Report.*

[2] For the Ministry of Food and Institute of Statistics we shall employ the abbreviations M.F. and I.S. respectively.

With respect to this no mathematically valid proof is possible; for we cannot measure mathematically any errors that, as it were, may be inherent in the whole series of samples taken as a whole. No repetition of structurally identical samples would show up defects that are part and parcel of that very structure—let us say, a general tendency of housewives to overstate, or to understate, their purchases. What, however, we can consider when we have several sets of samples similar in some respects and dissimilar in other, is whether or not the data derived from them are compatible. With this in mind, we can usefully put and answer simple questions, such as: to what extent are the groups of figures obtained from the one survey similar to those of another, and to what extent are they dissimilar ; are there any explanations as to why they should either agree or disagree; can we be satisfied with the explanations which we could offer or is it possible to think of others equally plausible and which would contradict them ? Social surveys are only partly a matter of pure statistics and partly a matter of common sense; and important as it is that they should aim at the highest possible degree of precision it is also important to realize that even at best this will have to allow for a considerable margin of error. It was not the purpose of the M.F. or the I.S. surveys to obtain figures that could be defended up to the smallest fraction of a digit; they were undertaken for strictly practical purposes, and, in particular, in order to provide a picture of the consumption of working-class families that would indicate whether in those years of food shortages these families were able to obtain a fair share of essential foods.

Before venturing into a discussion of the results of the surveys let us first consider in some detail the methods of sampling in each case. (Since in this paper we shall use only the figures from 1942 onwards we need not concern ourselves with the details of surveying in the earlier years, when the methods adopted by both the M.F. and the I.S. were somewhat different).

The large samples of the M.F. survey were taken at random within selected towns. This selection permitted some weighting of towns of different sizes, in so far as was feasible under war-time conditions. The smaller towns, however, were under-represented, for technical reasons, and surveys in particular towns had on occasion to be abandoned because of air raids.

The number of persons in the households ranged from 1 to over 10. A specimen of the structure of the households surveyed is given—for 1946—in the *Report*, and in Table I we show these data side by side with the structure pattern of the households that constituted the I.S. sample of the same year. The M.F. sampling was spread over the whole year,[1] each housewife keeping an account for one selected week; it covered different families in different years.

Investigators visited the families. They left a prepared log book and weighed either all the foods which the housewife had in store or those that she proposed to use during the week of the survey. The housewife was also

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[1] Except in 1947 and 1948, when the samples extended only over 9 and 10 months respectively.

TABLE I

Relative Distribution of Households in 1946 Samples

No. of Persons in Household	Ministry of Food	Institute of Statistics
	%	%
1	7.7	—
2	20.6	2.6
3	26.1	21.9
4	21.5	31.8
5	12.8	14.6
6	5.5	9.9
7 to 9	5.0	17.9
10 and over ...	0.8	1.3
	100.0	100.0

asked to weigh all the foods purchased or consumed by the family in the course of the week. Altogether at least 4 visits were paid to each housewife; at the last visit the remaining foods were again weighed, and the log book checked and collected.

Of necessity the I.S. employed a very much simpler procedure. No extra money was available for the survey, which essentially remained in the hands of one research worker and one full time computor. Temporary unskilled help was engaged occasionally to assist with the tabulations, and the housewives were given a token payment of 2s. 6d. each, if they supplied a daily account for a fortnight. For the last two surveys—in 1948 and 1949—accounts were required for 4 weeks, and the payment to the housewife was raised to 8s. for this period. The investigators themselves received no payment at all but were only reimbursed for their out-of-pocket expenses (which, per investigator, averaged a few shillings for the whole period in each year).

The investigators were either university teachers or social workers, or students working under their supervision. They were approached by letter and agreed to help, a few enthusiastically, some very reluctantly. Yet, in the end, help they all did, and—considering the burdens that most of them were already carrying under war-time conditions—with astonishing perseverance and efficiency. Nevertheless, in the course of the 10 years of the survey many replacements were necessary, largely as a result of war-time transfers and the calling-up of women.[1] The investigators were equipped with a *questionnaire* for each family in which to take down the composition of the family, an outline of the main expenditure, and, if possible, a statement of the family income. They also distributed to the housewives plain note books in which to enter the daily purchases. No random sampling was possible; the investigators approached families with whom they were already acquainted through their social work or that had been selected as they or their local supervisors thought fit. Nearly all the families lived in the larger industrial towns, but the actual towns from which the samples were drawn

[1] Quite a few of our helpers, however, were men, in particular after 1945.

had to be left to chance—the chance of finding an unpaid investigator. It is, however, noteworthy that in all the years Liverpool and Southampton remained two of the largest contributors to our samples, although on several occasions the period of sampling coincided with heavy air raids.

The investigators usually visited the families in the evenings, since this was generally the only convenient time for them and for the housewives. As far as possible the same families were included in the survey every year; but new families were accepted to replace those that had dropped out, or simply in order to swell the size of the sample. The only conditions attached to the selection of the families were that the head should be a manual worker and that there should be at least one dependent child, and no boarders.

The I.S. sampling of food consumption was based essentially on the purchases made by the housewife during the fortnight. She was asked to state, as best she could, the price, weight, and exact kind of food bought. In the case of branded foods it was thus possible to determine the weight, if that had been omitted by the housewife. She was also required to give information on the consumption of potatoes from stock, and of home-grown potatoes, vegetables, and fruit; of eggs from own hens; of free milk; and of meals taken away from home, whether purchased or obtained free.

The main difficulty was the checking of the accounts : which of them were reliable and which not ? Of those that were unreliable, which of them were faulty because of a simple error (*e.g.*, the non-entry, or double entry, of a weekly milk or bread bill), and which represented plain ' cooking ? ' The only satisfactory way of handling the accounts seemed to be for one research worker to check in detail the data from all the families, and to repeat this at every stage of the tabulations. This solution was, in fact, adopted. Small as the annual samples were—their sizes are shown in Table II—it was a very laborious task. The accounts, often kept by busy housewives who also were full time factory workers, and who lived in towns exposed to frequent alarms and actual air raids, were sometimes anything but easy to decipher.

TABLE II

Structure of the Samples

	Ministry of Food			Institute of Statistics			
	Total Fams.	Persons per Family	Children under 14	Total Fams.	Persons per Family	Children under 14	Period of Survey
	No.	No.	No.	No.	No.	No.	
1942	8567	3.4	0.9	161	4.8	2.3	June
1943	9141	3.5	0.9	208	4.7	2.1	June—July
1944	7623	3.4	0.9	226	4.7	2.1	June
1945	7225	3.5	0.9	155	4.6	2.0	June—July
1946	8204	3.6	0.9	151	4.8	2.1	June—July[1]
1947	5942	3.6	1.0	163	5.0	2.2	June—July[1]
1948	5623	3.6	1.0	65	4.6	1.9	Aug.—Nov.
1949	7119	3.6	1.0	64	4.6	1.7	Aug.—Nov.

[1] A few of the accounts were kept in August.

Usually the investigators provided us with some indication as to which housewives had seemed particularly reliable in their book-keeping and statements, and these accounts were checked and tabulated first. All the other accounts were then gone through, and the obviously unreliable weeded out. Other doubtful ones were closely scrutinized and a list of questions compiled and submitted to the investigators. If these questions were satisfactorily answered, the accounts were included in our tabulations; otherwise they were discarded.

The M.F. *Report* gives figures of both consumption and purchases, the main of which we reproduce in Tables III to X. All the quantities in these Tables are calculated per person per week; they exclude in all instances the foods consumed in meals that were either purchased or obtained free, away from home. For reasons that will become clear presently, we start in Table III with the figures for butter and margarine. It will be seen that, according to the M.F. *Report*, the quantities consumed were higher in every case than the quantities bought. The Report suggests that the reason for this is that since the survey took about an hour of the housewives' time on several days during the week, they had to neglect their shopping and hence drew on their stocks; consequently, ' it is considered that the consumption records give a better estimate of their usual weekly household food supplies than records of actual purchases '.[1] But do they ? Butter and margarine were strictly rationed, and in the last column of Table III we show the annual weekly averages of the combined butter and margarine rations, including the special Christmas allowances. It seems highly improbable that the many thousands of families of the M.F. sample could have consistently consumed on the average more than their rations. Indeed, one would have expected their consumption to have been on the average rather less than the full ration, in view of the fact that apparently over a quarter of the households consisted of only one or two persons, many of whom must have been full time workers who regularly bought meals and snacks away from home. The I.S. inquiries into the annual turnover of inexpensive grocery shops, which catered for approximately 2 millions of registered customers and whose clientele consisted largely of working-class people, showed, in fact, that the combined rations

TABLE III
Butter and Margarine

	Ministry of Food		Institute of Statistics	Grocery Sales	Rations annual av.
	consumed	bought			
	oz.	oz.	oz.	oz.	oz.
1942	6.2	5.9	6.0	5.7	6.0
1943	6.2	6.0	6.0	5.6	6.0
1944	6.4	6.1	6.0	5.5	6.1
1945	6.4	6.0	6.0	5.7	6.1
1946	6.3	6.0	6.0	5.7	6.0
1947	6.2	5.9	6.0	5.8	6.0
1948	7.1	6.7	6.6	—	6.9
1949	7.7	7.4	7.4	—	7.7

[1] *Op. cit.*, p. 101.

of butter and margarine were not taken up in full.[1] The actual figures of the purchases per head per week are given in the penultimate column of Table III.

Any criticism of this kind must not, however, be carried too far. Errors of this magnitude are probably inevitable in any such inquiry. Investigators are not equipped with search warrants; and a housewife who already has—from her point of view—wasted several hours in answering questions and having her stocks weighed may be forgiven if on the occasion of the final visit she tells the investigator that there is nothing left over to weigh. Moreover, no one can stand by her and make sure that she weighs, and weighs correctly, what she buys and uses during the week of the survey.[2]

TABLE IV
Bread and Flour

	Bread			Total Flour*		
	Ministry of Food consumed	Ministry of Food bought	Institute of Statistics	Ministry of Food consumed	Ministry of Food bought	Institute of Statistics
	oz.	oz.	oz.	oz.	oz.	oz.
1942	60.6	59.5	59.9	55.5	54.2	54.2
1943	59.7	59.1	63.0	55.9	54.8	56.9
1944	59.9	59.3	67.7	57.2	56.0	61.9
1945	61.8	61.0	66.2	58.8	57.4	59.6
1946	59.9	59.1	71.1	56.5	55.0	63.2
1947	62.5	61.9	68.7	57.3	55.4	58.9
1948	65.3	64.7	68.3	61.0	60.1	59.9
1949	61.1	60.0	61.5	58.1	57.1	54.2

* Including bread, cake, and biscuits (rate of conversion of manufactured foods into flour, 70 : 100).

The families of the I.S. survey were, on the average, larger and contained far more dependent children than those of the M.F. survey, and, on account of this, were probably relatively poorer. They were big bread eaters (Table IV), and one would thus have expected them to have needed their full combined ration of butter and margarine.[3]

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[1] The material for these inquiries was made available to us from 1938 to 1947.

[2] We have asked the Ministry of Food to comment on this, and they have kindly given us permission to quote their opinion : ' We expect of course that consumption of foods may exceed purchases in these records because of the recognized habit of the housewife to draw abnormally upon stocks during the survey week, but fats are clearly to be treated as exceptions to this rule. In their case recorded purchases of butter are very near the ration level and of margarine a little below and this is what we should expect the normal consumption to show.'

(We) ' would not however think the reason you put forward for the apparent excess in the consumption figure to have much importance. The investigator has access to the larder, the stock weighing is done by herself, and the importance of the final weighing is impressed upon her, together with the point that she should not necessarily take the housewife's word on the stock position. We have therefore sought for another explanation and have formed the opinion that the perfectly natural . . . desire of the housewife to dress up the diet a little when it is being inspected tends to make her unusually generous with the consumption of fat and in particular to draw upon any small stock of butter that she may have by her.'

This argument could, of course, be applied to *all* non-bulky foods, such as canned meats and fish, tinned milk, dried eggs, preserves, and, for a survey that extends over only one week, it might also be valid as regards perishable foods, such as fresh meat, fish, and milk. (T.S.)

[3] Some of the families exchanged part of their ration of butter for margarine.

The consumption of all flour—in the form of bread, cake and biscuits, as well as of flour bought as such—was, in most years, higher for the I.S. families than for the M.F. families, the greatest discrepancy occurring in the figures for 1946, when on account of the introduction of the rationing of bread, flour, and flour confectionery, the M.F. averages for the year were lower than those of the preceding years. The I.S. figures, on the other hand, showed an upward trend. The data on which they were based were, however, obtained in June and July of 1946, when rationing had either not yet been introduced or had not yet become effective, while, at the same time, the psychological effect of the threat of rationing expressed itself in an increased consumption of these foods. Since children aged 4 to 11 years were allowed as much bread and flour as an adult, while those over 11 years old could obtain nearly half as much more than that, the higher bread and flour consumption of the I.S. families, as compared with that of the M.F. families, in 1947, when the rationing of these foods was in force, explains itself.

As one would have expected, the I.S. families, which, on the average, ate more bread and flour, had a relatively lower consumption of potatoes (Table V). Some seasonal influence obviously shows itself in the I.S. figures, and, in particular, in the figure for 1945, when owing to the climatic conditions of the preceding autumn and winter, old potatoes had become very scarce in June and July, while new potatoes were still rather expensive. It thus seems likely that the M.F. and I.S. figures of bread and flour consumption on the one hand and of potato consumption on the other, would have been closer to one another had it been possible to correct the I.S. figures so as to eliminate the seasonal influence.[1]

TABLE V

Potatoes

	Ministry of Food consumed	Ministry of Food bought	Institute of Statistics
	oz.	oz.	oz.
1942	66.2	62.4	57.1
1943	68.6	61.1	53.0
1944	69.0	62.4	63.6
1945	65.7	59.7	51.5
1946	70.5	65.7	61.0
1947	67.2	62.1	58.0
1948	61.6	54.8	59.4
1949	65.4	61.0	58.0

Little comment seems necessary on the figures for sugar and preserves (Table VI). It will be seen that the figures for preserves include different ranges of items in the different inquiries, so that no direct comparisons are possible. Indeed, while the figures relating to the turnover of the grocery shops show a downward trend, those of the M.F. as well as of the I.S. sample

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[1] The I.S. figure for 1949 in Table V is somewhat higher than the figures in Table VII in *Family Expenditure in 1949, Part II* (BULLETIN, Vol. 13, No. 5), where, through an oversight, the quantities of potatoes consumed from stock had been omitted.

TABLE VI

Sugar and Preserves

	Sugar				Preserves			
	Ministry of Food		Institute of Statistics	Grocery Sales	Ministry of Food*		Institute of Statistics†	Grocery Sales‡
	consumed	bought			consumed	bought		
	oz.	oz.	oz.	oz.	oz.	oz.	oz.	oz.
1942	8.4	8.4	8.7	8.3	4.9	3.6	3.2	3.0
1943	8.7	8.8	9.2	9.0	5.2	4.5	3.3	3.5
1944	9.1	9.1	8.7	9.2	6.1	4.8	5.4	2.9
1945	9.1	9.1	9.6	9.3	5.5	4.3	4.6	2.3
1946	9.6	9.8	10.3	10.4	5.4	4.5	4.8	2.4
1947	10.2	10.4	10.8	11.1	5.5	4.5	4.7	2.5
1948	10.5	10.7	10.9	—	5.0	5.0	5.1	—
1949	10.9	10.8	11.5	—	6.2	5.2	4.5	—

* Including jam, marmalade, syrup, treacle, mincemeat, fruit curd, and honey.

† Including jam, marmalade, and fruit curd.

‡ Including only specifically rationed jams, marmalade, and fruit curd.

reveal an upward one. This is because jams and marmalade were made available also under the 'point' rationing scheme, in addition to those preserves that were specifically rationed in conjunction with sugar. Only these latter preserves could be exchanged for sugar, and the quantities of preserves sold by the grocery shops, shown in Table VI, refer to this group only.

The M.F. figures of milk consumption and purchases in Table VII are those of the *Report* with the exclusion of the milk consumed and purchased

TABLE VII

Milk and Cheese

	Milk*			Cheese			
	Ministry of Food		Institute of Statistics	Ministry of Food		Institute of Statistics	Grocery Sales
	consumed	bought		consumed	bought		
	pt.	pt.	pt.	oz.	oz.	oz.	oz.
1942	3.6	3.5	3.6	3.6	3.5	3.1	3.7
1943	4.1	3.9	3.8	3.1	3.0	2.5	3.3
1944	4.2	4.1	4.0	2.6	2.5	2.0	2.5
1945	4.2	4.2	4.2	2.5	2.4	1.9	2.5
1946	4.2	4.2	4.0	2.5	2.4	1.9	2.6
1947	4.2	4.2	3.9	2.3	2.2	2.3	2.4
1948	4.2	4.3	3.9	1.9	1.9	2.2	—
1949	4.6	4.4	3.9	2.2	2.1	2.2	—

* Including condensed, evaporated, and dried milk, but excluding milk received by the children at school.

by the children at school. A corresponding deduction has been made from the I.S. figures. These corrections seemed necessary so as to eliminate the bias that would otherwise arise not only from the larger number of children at school per family of the I.S. samples but also because the I.S. samples were obtained mainly during school term, when the children were actually receiving milk, while the annual M.F. samples can only include school milk on about 180 days of the year.[1] From 1942 to 1946 the M.F. and the I.S. figures are, on the whole, reasonably close together, but from 1947 they begin to diverge. However, the small I.S. samples for 1948 and 1949 contained fewer dependent children per family than the earlier samples, and one would have expected this to result in a slightly reduced need for milk as a dietary item. Nevertheless, the remarkably high M.F. figures of milk consumption for 1948 and 1949 are somewhat surprising, considering that the *Report* suggests that the M.F. samples for 1948 and 1949 might represent a slightly lower social class than the M.F. samples for 1945 and 1947.

TABLE VIII

Eggs

	Dried Eggs				Eggs in Shell		
	Ministry of Food		Institute of Statistics	Grocery Sales	Ministry of Food		Institute of Statistics
	consumed	bought			consumed	bought	
	No.	No.	No.	No.	No.	No.	No.
1942	0.5	0.5	—	0.4	0.9	0.9	1.5
1943	1.4	1.2	1.1	1.2	0.8	0.6	1.0
1944	2.0	1.8	1.4	1.1	0.9	0.6	1.2
1945	1.7	1.5	1.2	1.1	1.3	1.0	1.4
1946	1.1	0.9	0.6	0.6	1.4	1.1	1.3
1947	0.7	0.6	0.4	0.5	1.6	1.3	1.6
1948	0.4	0.3	0.1	—	1.9	1.6	1.6
1949	0.1	0.1	—	—	2.8	2.3	2.0

Since the cheese ration was changed not infrequently the I.S. figures, collected in each year during a period that did not exceed 2 months, compare, on the whole, less closely with the figures derived from the data of annual turnover of the grocery shops, than the M.F. figures.

The I.S. budgets were collected in most years during the early summer, when eggs were relatively plentiful. Moreover, not only were families with young children given special allowances of shell eggs, but, also, families with young children were more likely to go to the trouble of keeping chickens in their gardens than families of adults who possibly all went out to work. Thus the higher figures for shell eggs obtained by the families of the I.S. sample in the war years, as compared with the M.F. figures, does not seem unreasonable. It is, however, striking to find the M.F. figures of consumption and purchases of dried eggs much higher not only than the I.S. figures but also than the figures relating to the turnover of the grocery shops. The consumption of dried eggs of the I.S. families was negligible in 1942, since the survey was made in June, when dried eggs had only just been put on the market.

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[1] On the assumption that about two-thirds of the dependent children of the M.F. samples obtained milk at school we have reduced the figures in the *Report* of milk consumed by 0.2 pint per person per week, and, also, by the same amount, the figures for milk bought, until 1946—ignoring the fact that some of the children would have obtained this milk free; it is unlikely that an allowance for this, had it been possible to make it, would have affected the result. From 1946 onward milk was given free to all children at school. This change took place in the summer of 1946; hence for that year we deducted only 0.1 pint from the figures of milk bought, while for the later years we deducted nothing.

Figures for meat and sausages are shown in Table IX. The I.S. figures represent the purchases of all rationed meats plus such offals as were very similar to butcher's meat and were largely or wholly edible. They include heart, liver, sweetbreads, but exclude bones bought as such, oxtail, trotters, etc., and also fowl and rabbits—these last two because we could not obtain precise statements of their carcass weights. The M.F. figures in Table IX of rationed meat include also rationed corned beef, while the figures of ' other ' meat represent half of the figures given for this group in the *Report*. This reduction seemed to be called for since the figures in the *Report* refer to the consumption and purchases not only of all offals but also of some cooked meat and of fowl and rabbits. It is possible that even so the figures in Table IX still over-estimate the quantities of unrationed meats obtained by the M.F. families.[1] The I.S. figures have been corrected so as to allow for the difference in the proportion of young children per M.F. and I.S. family, since children up to the age of 5 years were entitled to only half a meat ration. No precise correction for this difference was possible; but the actual error, if any, will be negligible. The sharp cut in the meat allowance to butchers and manufacturers for the making of sausages in 1947 is suggested to some extent in the I.S. figures, but not in those obtained by the M.F.

TABLE IX

Meat and Sausages

	Meat					Sausages		
	Ministry of Food				Institute of Statistics	Ministry of Food		Institute of Statistics
	consumed		bought			con-sumed	bought	
	rationed	other*	rationed	other*				
	oz.	oz.	oz.	oz.	oz.	oz.	oz.	oz.
1942	13.8	1.6	13.8	1.5	14.9	4.0	4.0	3.4
1943	14.2	1.5	14.0	1.4	14.6	3.8	3.7	3.5
1944	14.2	1.9	14.0	1.8	14.5	4.1	4.0	3.6
1945	14.5	1.4	14.4	1.3	13.8	3.9	3.8	3.7
1946	15.0	1.3	14.9	1.2	14.9	4.2	4.2	3.9
1947	15.1	1.1	14.8	1.0	14.5	4.1	4.1	3.6
1948	12.7	1.2	12.6	1.4	13.6	4.7	4.7	4.7
1949	12.0	1.6	11.9	1.5	12.5	4.2	4.2	4.6

* ½ of figures in M.F. *Report*.

Table X gives the figures for oat products and for fish. Porridge is eaten more generally in winter than in summer; this may explain, at least in part, why the averages of the M.F. are somewhat higher than the I.S. averages. The figures for fish, however, are startlingly different for the two surveys. Yet this may be due mainly to differences in the meaning of the word ' fish ' when applied to fried fish, which represented a large proportion of the fish consumed. It seems likely that the gross weight of fried fish was entered in the M.F. log books. The I.S., on the other hand, did not request the housewives to weigh the fried fish bought by them but only asked them to distinguish clearly between their purchases of fried fish and of chips. Fried fish was then bought in the several towns for the I.S. and the actual fish content of the pieces—as distinct from their batter covering—that could be obtained for a given outlay, was ascertained. By means of these data the quantities of fish consumed in the form of fried fish were computed.

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[1] This would certainly be the case if the M.F. figures also include the purchases and consumption of meat pies.

Tables III to X represent the main items for which comparisons between the M.F. and the I.S. data seemed indicated. For a number of other items the methods of tabulation employed by the two surveys were too dissimilar to make comparisons profitable. However, those figures which we show side by side seem to suggest that within its predetermined limits of family type, size, and structure, the humble I.S. survey can hold its own beside the large M.F. survey. If we accept this we can draw the conclusion that between 1942 and 1949, the consumption of essential foods of urban industrial families was little, if at all, affected by differences in income per head, within the limits set by the average numbers of persons per family of the I.S. and the M.F. surveys. Moreover, since for all the specifically rationed foods the amounts that could be consumed per head were fairly strictly limited,[1] and since the average figures per head shown for these foods in our Tables closely approach the figures of possible consumption per head, not only the families of average structure of the two samples but, indeed, all, or nearly all, the families included in the samples, whether they consisted of one or of over 10 persons, must have bought approximately their full allowances of these foods.[3] This is the conclusion which we had already drawn from our annual I.S. surveys, and we find it confirmed by the data of the M.F. *Report*.

TABLE X

Oat Products and Fish

	Oatmeal and Rolled Oats			Fish*		
	Ministry of Food		Institute of Statistics	Ministry of Food		Institute of Statistics
	consumed	bought		consumed	bought	
	oz.	oz.	oz.	oz.	oz.	oz.
1942	1.7	1.5	—†	6.0	5.8	3.4
1943	1.3	1.1	0.9	5.7	5.6	3.9
1944	1.4	1.3	0.8	6.5	6.3	5.0
1945	1.3	1.2	1.2	8.2	8.1	5.6
1946	1.3	1.2	0.8	9.6	9.5	6.3
1947	1.2	1.1	0.9	8.8	8.7	5.5
1948	1.3	1.3	1.0	9.4	8.6	5.9
1949	1.2	1.1	0.9	8.0	7.8	4.4

* Excluding tinned fish. † Not computed.

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[1] A certain elasticity was possible in the consumption of meat, which was rationed by outlay, of sugar and preserves, which were partly interchangeable, and of milk.

[1] Some families of the I.S. samples—not always either the largest or the poorest ones—did not purchase their full allowance of milk, and on occasion even relied solely on the milk provided at reduced cost or free for their young children.

The fact that it was possible to obtain useful information by means of the small I.S. survey may prove of value at times when a large scale survey, though desirable, cannot be undertaken. Carefully planned safeguards against the introduction of serious bias are, of course, indispensable. In the case of the I.S. survey the most valuable checks on data were provided, on the one hand, by the quantities allowed of rationed foods during the periods when the samples were taken, and, on the other hand, by the quantities of foods actually purchased per registered customer from the grocery shops that supplied us with figures of their annual turnover: that is to say, the most valuable checks derived from the fact that there existed a fairly comprehensive system of rationing during the years when the sampling took place. Not only this rationing system itself but, further, the standardization of food purchases to which it accustomed the housewives must have tended to concentrate the purchases per head of many foods within fairly narrow ranges. Hence it is by no means certain that so small a survey would have yielded equally convincing results had it been carried out at a time when there was no rationing and no other general restriction of consumption.

T. Schulz.

THE NATIONAL INCOME IN 1951 AND FUTURE PROSPECTS

Our purpose in this paper is not only to present estimates of the various national income components in the last quarter of 1951, but also to show the annual totals which are implied by the estimates which we have made quarter by quarter throughout the past year. The estimates for the fourth quarter are particularly subject to error. The official data on which they are based (the White Paper estimates for 1950) will no doubt be revised when the White Paper for 1951 is published: and the estimates themselves may be subject to cumulative errors arising from the rather inadequate index-numbers we are forced to use. Our aim is to make the estimates available as a background to Budget discussion, and some of the data which we habitually use are not available at time of going to press. The detailed consumption estimates which we normally publish have been dropped from this paper, since the information available is insufficient to permit estimates for individual items. Our main emphasis will be on the annual totals for 1951, which we believe to be sufficiently accurate (although they will, of course, be affected by vagaries in the fourth quarter estimates) to provide a basis for analyising past performance and future prospects. Changes between 1950 and 1951 have been expressed in percentage terms, both to emphasise relative changes and to facilitate a comparison between the changes shown by our estimates and those shown by the official estimates to be published later this year.

THE NATIONAL PRODUCT

Our estimates of the gross national product at current factor cost in Table I show an increase of just over £850 million between 1950 and 1951: a substantially larger increase than that between 1949 and 1950. It is certain, however, that the increase which we show in this Table overstates the

TABLE I

Seasonally Corrected Gross National Product at Factor Cost

	1950	1951	1951 as % of 1950	1951 I	II	III	IV
1. Agriculture ...	610	620	*101½*	605	615	630	630
2. Mining & Quarrying	393	455	*116*	445	460	455	470
3. Manufacturing ...	4418	4715	*106½*	4010	4525	5095	5235
4. Building	624	680	*109*	690	670	665	700
5. Utilities ...	251	275	*109½*	265	270	275	280
6. Services ...	3925	4160	*106*	4110	4135	4145	4245
7. Total Business Sectors	10221	10905	*106½*	10125	10675	11265	11560
8. Government ...	1227	1385	*113*	1325	1380	1410	1425
9. Other	522	545	*104½*	555	535	555	540
10. Gross National Product	11970	12835	*107*	12005	12590	13230	13525

TABLE II

Seasonally Corrected Gross National Product at 1950 Factor Cost

	1950	1951	1951 % as of 1950	1951 I	II	III	IV
1. Agriculture ...	610	595	*97½*	585	590	600	600
2. Mining & Quarrying	393	410	*104½*	405	420	410	410
3. Manufacturing ...	4418	4555	*103*	4525	4565	4610	4530
4. Building	624	610	*98*	580	580	625	645
5. Utilities ...	251	265	*105½*	265	265	265	265
6. Services ...	3925	3960	*101*	4020	3955	3925	3945
7. Total Business Sector	10221	10395	*101½*	10380	10375	10435	10395
8. Government ...	1227	1300	*106*	1275	1295	1310	1315
9. Other	522	530	*101½*	525	525	530	530
10. Gross National Product	11970	12225	*102*	12180	12195	12275	12240

increase which in fact occurred. In principle we follow the White Paper practice of excluding stock appreciation from the gross national product. But it is only for the manufacturing sector of the economy that sufficient data on input prices are available to enable us to charge material inputs to that sector at current cost of replacement, and thus exclude, so far as is possible, stock appreciation from the value added by this sector of the economy. For other sectors, this sort of calculation is impossible, and our totals no doubt include some inventory gains. This is particularly likely in in the Services sector, where inventory gains in distributive trading may have been very substantial in this period of rapidly rising retail prices. We have no means of estimating the error involved : but there can be no doubt that a smaller increase in gross national product would be shown if the necessary adjustments could be made.

The increases were spread over most sectors of the economy, although agriculture lagged behind and mining and the government sector forged ahead. The interpretation of changes in this Table is awkward, since they reflect both changes in output and changes in current factor cost. Changes in factor cost have been very marked, and it is these changes which account for a large part of the superficially quite staggering increase of £1,500 million in the equivalent annual gross national product between the first and fourth quarters of 1951. Examination of the sector totals shows that this increase was concentrated in manufacturing where value added rose by over £1,200 million at annual rates during this period. Table II shows, however, that the value added by manufacturing at constant factor cost was practically stable during 1951. For convenience, we defer discussion of factor cost changes to the next section of this paper.

In Table II changes in factor cost have been eliminated to permit a comparison of the ' real ' output of goods and services between the two years, The increase shown here is only 2 per cent, or about £250 million at 1950 prices, which is smaller than for any previous year since the war. The disturbing feature brought out by this Table is that during 1951 the volume of output was practically unchanged. Such increase as there was entirely due to the fact that this stable level of output was above the average level of output for 1950: a year in which output increased rapidly. The *Economic Survey* for 1951 correctly forecast some stagnation of output under the impact of raw material shortages and the dislocation of production consequent upon defence orders, and estimated an increase in output of £325 million at 1950 prices. Our estimates imply that the *Survey* target for the rise in the total real product was substantially correct. An increase of 4 per cent, however, was expected in the output of the industries covered by the production index, whereas the actual rise was under 3 per cent.

In manufacturing, production in October and November (seasonally corrected) showed little change from the practically stable level which has obtained throughout the year. The tentative index number for all industries in December, however, implies a sharp fall in manufacturing: though of course this figure is subject to revision when full data become available.

Seasonally corrected Manufacturing Production in 1951. (1946=100)

Jan.	*Feb.*	*Mar.*	*April*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*
146	151	150	150	151	151	156	149	149	151	(151)[1]	(145)[2]

[1] Provisional.

[2] Inferred from the tentative index for all industries.

Shortages of raw materials, and especially steel, considerably hampered production in some of the metal-using industries, and the growing weakness in textile production offset slight gains elsewhere in the manufacturing sector. Clothing output in particular was already showing weakness in October, and judging from the unemployment figures, must have deteriorated further at the end of the year.

Indices of Textile Production, NOT Seasonally Corrected

	Textiles		*Clothing*		*Total Textile Group*	
	1950	*1951*	*1950*	*1951*	*1950*	*1951*
July	135	140	113	115	126	130
August	133	137	100	101	119	122
September ...	151	151	137	124	146	140
October	161	152	146	108	155	134

The Distribution of the Product

The annual estimates of the components of gross national income by distributive shares show divergent movements. Between the two years there was a clear tendency for incomes from work (wages, salaries, and forces' pay) to increase more rapidly than incomes from property (rent and gross profits).

The increase in the wage-bill was markedly more substantial than in

TABLE III

Seasonally Corrected National Income and Depreciation, by Distributive Shares

	1950	1951	1951 as % of 1950	1951 I	II	III	IV
1. Wages	4470	4940	*110½*	4760	4880	4990	5120
2. Salaries	2500	2700	*108*	2600	2680	2730	2780
3. Forces' Pay ...	250	310	*124*	300	310	315	320
4. Employers' Contributions ...	198	200	*101*	200	200	200	210
5. Rent	496	505	*102*	500	505	510	515
6. Goss Profits ...	4056	(4180)	*103*	(3645)	(4015)	(4485)	(4580)
7. Gross National Product at Factor Cost	11970	12835	*107*	12005	12590	13230	13525

previous years, and the quarterly estimates show that increases have persisted throughout 1951. The main factor in this upward movement has been the upsurge in the wage rate index. After a prolonged period of stability the index rose sharply in the fourth quarter of 1950, and since then has been increasing at an average rate of just under 1 per cent per month. The other indices we use to derive the wage bill estimates changed slowly: employment shows some increase, but the ' residual ' index which we use to take account of divergences between increases in earnings and increases in wage rates was reduced, particularly in the fourth quarter of 1951, when we make a (very arbitrary) allowance for the effect of the short-time working which was fairly widespread in the textile and engineering industries. Our estimate of the salary bill is based on very meagre evidence, but there has without doubt been a substantial increase this year as salaries have moved in (perhaps somewhat belated) sympathy with wage and price increases. The estimate for forces' pay shows a large increase due partly to the increased pay rates introduced in September 1950, and partly to the increased numbers in the armed services. In all cases, increases in incomes from work have clearly outstripped the negligible overall gains in productivity during 1951, so that unit labour costs must have increased markedly.

The estimates of gross profits, as we have emphasised in previous issues, are strongly influenced by the definition of income adopted. In so far as we have been able to exclude stock appreciation from the gross national product, our estimates of gross profits are net of stock appreciation. Since the necessary adjustment can only be made for the manufacturing sector of the economy, the figures in Table III in fact show gross profits after charging material inputs to manufacturing industry at current replacement cost. This definition differs from that generally adopted in industry, where first-in-first-out accounting procedures are apparently general (*i.e.* where profits include some stock appreciation) and it is interesting to compare the series of gross profits on this definition with a series in which an attempt has been made to approximate to the conventional definition of profits which charges material inputs to manufacturing at original cost.[1]

Gross Profits

	1950				1950 Whole Year	1951				1951 Whole Year
	I	II	III	IV		I	II	III	IV	
1. Our definition	4045	4140	4095	3960	4056	3645	4015	4485	4580	4180
2. Conventional definition ...	4180	4290	4370	4475	4330	4355	4270	4255	4380	4315

The divergences are very marked. Profits on our definition fall sharply from the third quarter of 1950 to the first quarter of 1951, over which period changes in output prices were insufficient to absorb both the sharp rise in current input prices, and the rise in unit labour cost in the first quarter of 1951 as wage-bill increases outstripped productivity gains. From the first quarter of 1951 to the end of the year there was a marked recovery as the fall in current input prices in conjunction with rising prices more than offset a continued rise in unit labour costs. And on balance, profits on this definition were about 3 per cent higher in 1951 than in 1950.

On the conventional definition, profits increased steadily throughout 1950. Labour costs per unit of output were fairly stable, and the rise in output prices was more than sufficient to offset increases in the original cost of materials used. In 1951, however, the situation changed. Profits as conventionally defined fell as the impact of higher priced material inputs made itself felt, and increases in output prices did not offset both the rise in the original cost of raw materials and the increase in unit labour costs. In the fourth quarter there was some recovery as output prices continued to rise whilst the materials bought at the high prices of the early months of 1951 had been absorbed and their place taken by inputs bought at the cheaper prices ruling later in the year. Nevertheless, profits on the conventional definition were slightly lower in 1951 than in 1950. A possible interpretation of the movement of profits in 1951 is that manufacturers found some difficulty in charging (output) prices sufficiently high to cover increases in input prices *and* in labour costs, and that they took the opportunity offered by falling input prices to restore their position.

Needless to say, this sort of analysis must be treated with great caution. In the first place, our indices are as yet very unsatisfactory, and cannot bear any heavy weight of interpretation. And secondly, any overall analysis inevitably obscures sharp divergences of experience within manufacturing industry. In particular, changes in input prices have a very uneven incidence on industries, and changes in unit labour costs depend on changes in productivity as well as on changes in earnings. Thus the difficulties experienced by the textile industry—sharp increases in raw material prices, rising unit labour costs, and consumer resistance to higher output prices—were no doubt very much more acute than those which faced, say, the engineering industry.

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[1] This we do by lagging the price index of manufacturing inputs behind the price index of manufacturing output. The lagged index of input prices is a weighted average of the unlagged index, weights of one-sixth, one-third, one-third, and one-sixth being given to the current quarter and each of the three preceding quarters respectively.

TABLE IV

Foreign Trade, NOT Seasonally Corrected

	1950	1951	1951 as % of	1951			
				I	II	III	IV
1. Visible Imports ...	2382	3500	*147*	3005	3570	3830	3585
2. Invisible Imports	540	720	*133*	585	635	725	930
3. Total Payments ...	2922	4220	*144½*	3590	4205	4555	4515
4. Visible Exports ...	2223	2695	*121*	2455	2765	2730	2825
5. Invisible Exports...	920	1035	*112½*	1030	1055	1060	995
6. Total Receipts ...	3143	3730	*118½*	3485	3820	3790	3820
7. Surplus (+) ...	+221		—				
or Deficit (—) ...		—490	—	—105	—385	—765	—695

TABLE V

Foreign Trade, Seasonally Corrected

	1950	1950	9151 as % of 1950	1951			
				I	II	III	IV
1. Visible Imports ...	2382	3500	*147*	3130	3430	3830	3605
2. Invisible Imports...	540	720	*133*	655	715	745	765
3. Total Payments	2922	4220	*144½*	3785	4145	4575	4370
4. Visible Exports ...	2223	2695	*121*	2430	2820	2780	2740
5. Invisible Exports...	920	1035	*112½*	1030	1055	1055	1000
6. Total Receipts ...	3143	3730	*118½*	3460	3875	3835	3740
7. Surplus (+) ...	+221		—				
or Deficit (—) ...		—490		—325	—270	—740	—630

THE BALANCE OF PAYMENTS

During the fourth quarter of 1951 the merchandise trade deficit fell, partly because of seasonal factors, and partly because of a fall in the volume of imports below the high level which had been reached in the previous quarter. The surplus on invisible account, however, fell heavily, because of the first payments on the U.S. and Canadian loans; and as a result of this the current account deficit was probably not much less than in the third quarter. When allowance is made for seasonal factors, the merchandise deficit is rather larger, but this effect is more than offset by the reduction in the invisible deficit when the loan payments are spread evenly over the four quarters of the year,[1] so that the total current account deficit becomes smaller, and may be estimated at about £630 million. The estimates which we previously gave of seasonally corrected ' invisible imports ' in the first three quarters of 1951 have been adjusted, in order to take account of the loan payments. For the year as a whole, the deficit on current account seems to have been about £500 million.

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[1] The loan payments which were made at the end of the year were in respect of 1951 as a whole. For the seasonally corrected estimates, therefore, a payment of one-fourth of the total amount is imputed to each quarter of 1951.

It is interesting to compare the development of the balance of payments during 1951 with the tentative forecasts which were made in the *Economic Survey*. The *Survey* assumed that the cost of buying the 1950 volume of imports would be greater by about £700 million in 1951, and that the import bill would be further increased because a rise in industrial production would make some increase in the volume of raw material imports inevitable. It was hoped that this increase in the import bill could be met without any deficit on current account. An improvement of about £50 million was expected in the balance on invisible account, while the current account surplus during 1950 was expected to fall to zero for 1951; between them, these two sources would make possible an increase in the import bill of £270 million. The remainder was to be made good from an increase in the value of merchandise exports, partly through an increase in volume of about 4½ per cent, but mainly by means of a rise in export prices. In addition to the ordinary import programme, provision was made for government purchases of imports for stockpiling purposes, and the cost of these purchases was estimated at £100 million; and since the cost of ordinary imports was expected only just to be covered from export receipts, a deficit in the balance of payments was forecast which would be roughly £100 million.

The comparison between forecast and fact is set out in the table below. Its apparent precision is misleading, since the estimates given in the *Survey* were necessarily rather rough, and our own estimates—particularly that of the balance on invisible account—are of course subject to error; but the general picture which it gives is probably realistic enough.

Factors Affecting the U.K. Balance of Payments, 1950–51

(Adverse factors —, favourable factors +)

	Survey Forecast	*Our Estimate of Actual Change*
(*a*) Rise in the cost of the 1950 volume of imports	—700	—710
(*b*) Rise in the import bill because of greater volume of imports	—160	—310
(*c*) Rise in the import bill because of stockpiling purchases	—100	—100
(*d*) Total increase in the value of merchandise imports	—960	—1,120
(*e*) Increase in surplus on invisible account	+50	—65
(*f*) Rise in receipts from the 1950 volume of exports	+465	+375
(*g*) Rise in receipts because of greater volume of exports	+120	+100
(*h*) Change in current account balance between 1950 and 1951	—320	—710
Current account surplus in 1950	+220	+220
Current account deficit in 1951	—100	—490

It can be seen from the table that, on the assumption that stockpiling purchases in 1951 were exactly equal to the *Survey's* forecast,[1] the unexpectedly serious change in the balance of payments, as compared with official expectations, can be largely explained by three factors. These were: (*a*) an unforeseen increase in the volume of imports[2]; (*b*) the worsening of the balance on invisible account, which had been expected to improve; and (*c*) the failure of export prices to rise by as much ashad been expected. Individually, none of these three factors was decisive, but together their effect was to bring about a crisis in the balance of payments when only comparatively minor difficulties had been foreseen. In the case of the first factor—the rise in the volume of imports—two explanations suggest themselves: stockpiling purchases may have been larger than was anticipated (since any excess over our assumed figure of £100 million would be shown here) and the effects of 'liberalisation' on imports from Western Europe almost certainly were underestimated. The worsening of the invisible balance, which has very probably occurred, must have been mainly due to the loss of Abadan, though it is also possible that interest and dividend receipts fell off somewhat in the second half of the year, because of the fall in the prices of sterling area products. The *Survey's* estimate of the increase in import prices turned out to be remarkably accurate, and the failure of export prices to rise as much as had been anticipated had a less serious effect on the deficit than the other two factors.

It is in connection with the dollar balance, and the state of the gold reserves, that the *Survey's* forecast reads most ironically in the light of actual events.[3] It is true that the increase in British and sterling area imports from the dollar area was foreseen, but no allowance was made for any possible decline in the sterling area's earnings from sales of raw materials to the dollar area; and there was nc hint that a new dollar crisis in 1951 was even a possibility. It seems to have been assumed that the prices of sterling area products on world markets would rise in much the same proportion as the United Kingdom import price index, and that American purchases would remain at their end-1950 levels. In particular, the suddenness and sharpness of the change in the dollar balance in mid-1951, and the ensuing growth of speculative capital movements, were (perhaps not surprisingly) quite unforeseen. It has again become apparent that comparatively small changes in the world economic climate may have decisive effects on the economic situation of the whole sterling area; because of a slump in one or two commodity markets, it may become necessary to reshape the whole of British external economic policy. It is also clear that a number of small errors in forecasting, all of which happen to be in the same direction, may be associated with a further forecast about the gold and dollar reserves which is not merely over-optimistic but disastrously wrong. The reserves have become an embarrassingly sensitive index, both of our current economic position and of world opinion concerning our immediate prospects.

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[1] In fact they may well have been rather over £100 million.

[2] Allowing for stockpiling, the *Survey* estimated an increase of rather under 10 per cent in the volume of imports, whereas the actual increase was over 15 per cent.

[3] 'The growth in the gold and dollar reserves must . . . be expected to slow down, and with the elimination of Marshall Aid and the assumption of the new burden of debt service . . . the reserves may cease to grow or even decline somewhat. So long as all steps are taken to keep up the level of dollar exports, and so long as dollar expenditure is confined to essentials, this prospect need give no cause for alarm.' (*Survey*, p. 37).

The crisis of 1951 was in fact the result of several influences, some of which had been partly anticipated and allowed for, but which together exercised a collective force which was quite unexpectedly decisive. It is wholly unrealistic to pick out one factor as outstanding, and to concentrate almost exclusive attention on (for example) the worsening of the terms of trade, or the fall in the prices of sterling area products, or the growth of rearmament expenditure, or a hypothetical increase in inflationary pressure at home[1]; the problem is not so simple, nor has it a simple solution.

TABLE VI

Seasonally Corrected Gross National Expenditure at Current Prices

	1950	1951	1951 as % of 1950	1951			
				I	II	III	IV
1. Gross National Product at Factor Cost	11970	12835	*107*	12005	12590	13230	13525
2. Net Indirect Taxes	1602	1760	*109½*	1745	1755	1740	1790
3. Gross National Product at Current Market Value ...	13572	14595	*107½*	13750	14345	14970	15315
4. Consumption ...	9040	9710	*107½*	9715	9700	9620	8890
5. Govt. Current Expenditure ...	2025	2475	*122*	2075	2275	2600	2950
6. Gross Capital Investment ...	2286	2900	*127*	(2,285)	(2640)	(3490)	(3195)
7. Export Surplus (+) or Deficit (—) ...	+221	490	—	—325	—270	—740	—630

THE CLAIMS ON THE PRODUCT

In Table VI gross national expenditure is shown broken down into its main components. The general picture of the changes between the two years which emerges is that consumption at current market prices has increased at about the same rate as total expenditure, whilst government current expenditure and gross capital formation have increased sharply at the expense of the huge deterioration in the export surplus.

Consumption expenditure was remarkably high in the first quarter of 1951, and declined (despite price increases) in the following two quarters.

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[1] Some commentators seem to regard a deficit in the balance of payments as in itself a proof that inflationary pressure has increased at home. This view makes analysis of our economic problems an agreeably simple task, but does not throw much light on the nature of inflation (were we in the midst of an inflation in 1931 ?). There is in fact hardly any genuine evidence that inflationary pressure within the United Kingdom increased to any significant extent either in mid-1949 or in mid-1951.

TABLE VII

Seasonally Corrected Gross National Expenditure at 1950 Prices

	1950	1951	1951 as % of 1950	1951 I	II	III	IV
1. Gross National Product at Factor Cost	11970	12225	*102*	12180	12195	12275	12240
2. Net Indirect Taxes	1602	1650	*103*	1705	1645	1615	1635
3. Gross National Product at Current Market Value ...	13572	13875	*102*	13885	13840	13890	13875
4. Consumption	9040	9075	*100½*	9455	9090	8855	8890
5. Govt. Current Expenditure ...	2025	2235	*110½*	1970	2085	2320	2560
6. Gross Capital Investment ...	2286	(2500)	(*109½*)	(2280)	(2325)	(2620)	(2575)
7. Export Surplus (+) or Deficit (—) ...	+221	+65	—	+180	+340	—105	—150

As explained in our previous article,[1] expenditures on most items continued to increase, but the increases were more than offset by very sharp falls in clothing and household goods expenditure. Since expenditures on these items were extremely high in the first quarter, it seems likely that consumers bought in excess of current requirements and were able to postpone further purchases. Such fragmentary indicators which we have to guide us in advance of the publication of consumption data for the fourth quarter[2] suggest that there was some recovery in expenditure as a whole in the last quarter[3]: but our estimate for the fourth quarter is unreliable, and therefore the annual total needs to be interpreted with caution.

The sharp rise in gross investment (which we must once again emphasise is a residual figure, and is therefore subject to a possible cumulation of error in other estimates) is at least partly the counterpart of the changes in consumption expenditure. Our estimates show gross investment low in the first quarter, increasing very sharply in the second and third quarters, and falling in the fourth. It is impossible to estimate fixed capital formation separately from stock changes, but it would be unreasonable to suppose that fixed capital formation fluctuated to this extent. Without doubt changes in stocks must bear the brunt of the explanation. Stocks of consumer goods in flagging demand at home must have increased over the year—certainly this has been true of textile stocks[4]—and these increases will have been reinforced to the extent that the Government succeeded in adding to the strategic stockpile.

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[1] BULLETIN, January, 1952.

[2] Mainly the indices of retail sales.

[3] In particular, there appears to have been a marked recovery in clothing sales in December.

[4] Stocks of textiles appear to have accumulated at the wholesale, rather than at the retail, level. The value of retail stocks held in November was not unduly high as compared with the previous November if account is taken of the price rise over the period. Index numbers of the value of stocks held by Wholesale Textile Houses (1947 = 100) stood at 237 for September, 235 for October, and 228 for November, compared with 171, 152 and 144 for the corresponding months of 1950.

Government current expenditure, after increasing relatively slowly in the first half of 1951, surged upward as the defence programme got under way, and expenditure in the fourth quarter must have been substantially larger than that achieved early in the year.

Our estimates of national expenditure at 1950 prices in Table VII enable us to make a comparison with the forecasts of changes in real output and expenditure which were made in the Economic Survey.[1]

Resources and Claims, 1951

(£ Millions at 1950 prices)	*Economic Survey Forecast*	*Estimate for 1951*	*Excess of Estimate over Forecast*
Resources			
Increase in national output	325	255	—70
Increase in imports	185* †	340†	+155
Less Increase in exports	—100	—180	— 80
Increased resources available	410	415	+ 5
Claims			
Increase in Public Authority expenditure ...	400	205	—195
Increase in Investment	60*	200	+140
Increase in Consumption	—50	10	+ 60
Increased Claims on resources...	410	415	+ 5

*Proposed expenditure (at 1950 prices) on materials for the strategic stockpile has been added both to imports and to investment. Expenditure on these materials was forecast at £100 millions in 1951 prices. In February 1951, the price index for raw materials stood at 149 (1950=100) and some further increases were no doubt foreseen.

† The table in the *Survey* does not explicitly include any allowance for changes in the invisible account. Both visible and invisible imports and exports are included in our estimates, although it is not easy in either case to find a suitable price-index to deflate values.

The *Economic Survey's* forecast of the additional resources which would be available at home was very close to the mark. The smaller increase in national output was just about offset by the larger net increase in resources available through the deterioration in the foreign balance, which was sharper in real terms than had been anticipated. The distribution of these resources was, however, very different from the forecast. Consumption did not fall, whereas fewer resources were absorbed by public authorities than had been anticipated. Since the expenditure by public authorities at current prices may have been only slightly below the amount forecast (2475 as against 2510) our estimates imply that price increases in this sector were substantially larger than was expected when the Survey was made. Investment absorbed more of the available resources, an increase which was in large measure due to increased stock holdings both of consumer goods and in the strategic stockpile. It is interesting to note the *Survey's* statement that ' on balance investment in stocks and work in progress will probably be rather less in 1951 than in 1950 '. Taken in conjunction with the fall in consumption which was planned, this statement seems to imply that consumer goods industries would adjust themselves to changes in demand with a speed which it was probably unreasonable to expect in practice.

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[1] The snag is that the *Survey* forecasts were in terms of constant (1950) factor costs, whereas our expenditure estimates are based on 1950 market prices. As can be seen from Table VII the increase in gross national product at current market value was greater than the factor cost increase, because net indirect taxes (at 1950 rates) were somewhat higher in 1951. In the following table, a very arbitrary attempt has been made to deduct the increased indirect tax from the expenditure components. In consumption, there was in 1951 some reorientation of expenditure towards more heavily taxed commodities, and it seems likely that the increase in factor cost consumption between the two years was small. Indirect taxes on investment may have increased as higher stocks of taxed commodities were held: and finally a token deduction has been made from public authority and export changes to take account of the possibility that the indirect tax component of these expenditures was higher than in 1950.

The Prospect Before Us

(*a*) *Resources and Claims*

When the *Economic Survey for* 1951 was written, the prospects for the economy were bleak enough : but the prospects for 1952 are much bleaker. Comparing 1951 with 1950, the *Economic Survey* could show that an increase in the resources available from home output could be achieved simply by maintaining output at the high end-1950 level. Furthermore, it was not contemplated that any additional resources would be absorbed by the balance of payments : the effects of the worsening terms of trade could be met, in large measure, by running down the surplus achieved in 1950. To some extent, these prophecies were, as we have seen, falsified by events, and in particular the deterioration in the balance of payments was much more severe than anticipated. The deficit in the 1951 balance of payments, taken by itself, means that in 1952 the attempt to achieve a balance in our external transactions can be only be accomplished at the cost of heavy calls on available resources. The Chancellor of the Exchequer, in his recent statement, announced further measures to cut imports which, together with the cuts announced last November, are expected to lower the import bill by £500 million. In addition, it is hoped to divert to export a large part of the £150–£200 million of plant, machinery, and vehicles, and £70 million of consumer durables which it is proposed to remove from the home market. Should these measures be successful, the resources available at home will decline by something of the order of £750m. at annual rates and autumn-1951 prices by the second half of 1952, in the interests of securing a balance in our external account. Our estimates of the balance of payments deficit in the last half of 1951 before seasonal correction[1] show that the deficit was in fact rather larger than £750 million. Thus if the Chancellor's stated objective of attaining overall balance in our external transactions in the second half of 1952 is to be achieved there is no slack in the programme. If any increased imports of raw materials (*e.g.* increased imports of American steel) are to be made to sustain higher home output, they must presumably be offset by increased exports other than those specifically planned by the Chancellor, or by further cuts in less essential imports.[1] Furthermore, the magnitude of the import cuts was based on the assumption that import prices would not change to any significant extent: should there be an unfavourable movement in the terms of trade, further cuts would have to be made.

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[1] It is presumably this deficit that the Chancellor had in mind when making his statement. As is brought out by a comparison between Table IV and Table V, however, seasonal factors were affecting the balance adversely in the second half of the year, and the whole of payments on the American loan were made in the fourth quarter. Thus if the Chancellor succeeds in his attempt to secure non-seasonally corrected balance in the last half of 1952 there would be a surplus in the following year merely through the operation of seasonal factors.

To what extent can we expect this huge drain to be offset by increased output at home? The experience in 1951 was certainly not encouraging: the picture which emerges from our estimates is one of comparatively stable output over the year. In the metal using trades, there is some prospect of improvement in output when the chronic steel bottleneck is alleviated by supplies from America, and when the defence programme is ' rebalanced ' to ease the burden on these trades. On the other hand, a recovery in textile output must await the digestion of the excessive stocks which accumulated in 1951. There are so many uncertainties in the situation—not the least of these being the impact of any fiscal measures taken by the Chancellor in his Budget—that any precise forecast of future changes in output is impossible. It would, however, seem to be unduly sanguine to expect an increase between the second half of 1951 and the second half of 1952 which is greater than the £250 million (at 1950 factor cost) which was achieved between 1950 and 1951. We cannot (as was possible in 1951) achieve an increase by maintaining the end-year level of output; any increase which occurs must take place during 1952. And it seems inevitable that there will be some decline in the output of the Services sector if there is a fall in consumption of the magnitude which appears to be implied by the programme for the second half of 1952. On the other hand, factor costs in the second half of 1951 were substantially higher than in 1950. On balance, it may be that an increase of £200 million (at second half 1951 factor cost) in the gross national product by the second half of 1952[2] is a plausible working hypothesis.

If we take the figure of £200 million as illustrative of a possible increase in output in the second half of 1952 and assume that the Government succeeds in diverting £750 millions of resources away from the home market, then the resources available at home will *decline* by £550 million. Thus for the first time since 1948, the economic programme has to be worked out in the context of a fall in available resources. How is it intended that this decline should be apportioned between home claimants? Here the Chancellor's statement is not explicit, but there are several pointers. Government non-defence expenditure will not rise above 1951 levels and will therefore decline in real terms. It now appears that the ' rebalancing ' of the defence programme will entail some reduction in the rate of increase in its claims on resources. But by the end of 1951 the defence programme had acquired some momentum, and short of deliberate action to curtail existing orders it is inevitable that more resources will be absorbed by Defence than in 1951. On balance, government claims on resources seem certain to increase. Home investment in fixed capital is to be hit severely : apart from the £100–150 million of investment goods diverted to export,[1] 'steel-using' building is to be 'tightly' controlled. It may be also reasonable to suppose that stocks of consumer goods will run down from the high levels of the second half of 1951, and that fewer imports will be absorbed into the strategic stockpile. The remaining decline in resources must presumably fall on personal consumption. The large fall in imports of consumer goods which is proposed, together with the diversion of consumer goods to export, will be partially offset by a release of stocks from private inventories. The following table does not pretend to do more than provide an indication of the situation which the Chancellor must have in mind on Budget day, since it draws out the implications of the actions which he has already taken in conjunction with forecasts which appear to be reasonable.

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[1] Though there will be some margin if additions to the strategic stockpiles are made at a slower rate than in the second half of 1951. Our statements imply that overall balance will be attempted without crediting dollar aid, so that reserves are built up slightly.

[2] All estimates for the second half of 1952 are given at annual rates.

Resources and Claims, Second Half of 1952 compared with Second Half of 1951

	(£ million, at annual rates: second half of 1951 prices)
Resources	
Increase in home output	+200
Less Resources diverted from the home economy ...	—750
Increase in resources available in home economy	—550
Claims	
Public Authorities	+100
Investment	—500
Consumption	—150
Increased resources used in home economy	—550

The usual drawback to this type of aggregative approach is that it appears to imply a ready transferability of factors of production in the economy. The transfer of factors in practice may be of course be subject to all manner of lags and difficulties. Thus in 1951 it seems to have been the case that the fall in the consumption of the textiles was reflected first in an increase in stocks, and then by a decline in output. To some extent the factors released can be reabsorbed into industries which are able to expand their output : but the difficulties of converting a Lancashire textile worker into a Midland metal worker are obvious.

The difficulties in the 1952 programme are not, however, as acute as might be inferred from the magnitude of the changes involved. The cut in investment, for example, consists in large measure of a diversion of investment goods from the home to the export market, together with a release of inventories to the consumption market. To the extent that cuts in home civil investment are greater than this diversion of output to export and of stocks to consumption, the resources may well be fairly readily absorbed in the defence programme. Similarly the cut in the imports of consumption goods will automatically reduce the amount available at home (unless it is offset by running down stocks of, say tobacco). The greater part of the programme can be achieved without major shifts of home factors of production, merely by redirecting products to different destinations. This assumes, of course, that the Government has the means at its disposal to achieve this redirection, and that it can prevent, for example, a diversion of export goods to a home consumption market where the shortage of goods will be felt most acutely.

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[1] Excluding the diversion of passenger cars from home consumption expenditure to exports.

When all has been said, however, severe problems remain which cannot be solved by the redirection of products, and which are partially obscured by an analysis which deals in *net* changes in resources and claims. Thus the net increase in public authority claims is the resultant of a decline of perhaps £100-150 m. in civil claims in conjunction with an increase in defence claims of the order of £200-250 m.[1] Again, we have assumed an increase in ouput at home despite a probable decline in the output of the Services sector as consumption falls. Or yet again, to increase the resources available for consumption by running down inventories of consumer goods creates acute problems for those industries such as textiles whose stocks are being run down. Workers may be held in anticipation of a recovery in production when stocks reach a more 'normal' level, and it is by no means necessary that they will be released to expand output in, say, the metal-using trades. Finally, the composition of the increased output is of crucial importance. If, as one hopes, the increase is concentrated in metal-using trades, the most acute strains on the economy will be eased. If, on the other hand, the increase occurs in goods and services for home consumption, it will provide relief for the consumption sector without contributing either to exports or to the arms programme.

(*b*) *The prospects for stability*

It is clear that, with existing rates of taxation, there would inevitably be a sharp increase in flationary pressure during 1952. The increase in the 'inflationary gap' may be estimated on the basis of the above analysis, at about £250 m. Because of the import cuts and a further increase in defence expenditure, a reduction of about £150 m. in the supply of consumers' goods may be anticipated: at the same time about half the assumed £200 m. increase in output would increase the disposable incomes of consumers. In fact, the gap might prove to be rather smaller than this, since the effect of the future reduction in supplies of certain consumers' goods—particularly food and durables—may be to cause some increase in personal savings, rather than an equivalent increase in expenditure on other goods. However, even if some allowance is made for this, it seems likely that, given the rise in rearmament expenditure and after allowing for the increase in revenue which will result from our assumed increase in production, further increases in taxation would be necessary in order to reduce consumers' demand by something in the region of £200 m., if inflationary pressure in the financial year 1952–53 is to be no greater than in the second half of 1951.

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[1] £330 m. increase at current prices is estimated for the financial year, but this must be adjusted for price increases and the low defence expenditure in the summer of 1951.

This creates some very awkward economic problems—quite apart from the political and social ones. It is clear that, with the existing tax rates and tax structure, such an increase in revenue could hardly be achieved without raising indirect taxes (or reducing subsidies),[1] so that there would be an immediate rise in the price-level which, through its effect on wage-rates and salary-rates, might well lead to further price rises. There may be some difference of opinion about whether wage and salary claims are justified by increases in the cost of living, but there can be little doubt that they are likely to occur. It may be argued that a high degree of inflationary pressure would itself exert an upward force on the price level, so that an increase in indirect taxes might ultimately help to stabilise prices by reducing inflationary tendencies. All recent evidence suggests, however, that in this country at least the rate of increase in prices is not a simple function of the degree of inflationary pressure, and that it is far more responsive to ' exogenous ' factors, such as a change in import prices or in rates of indirect taxation. A ' disinflationary ' fiscal policy, at any rate unless it is exceedingly drastic, cannot at present be carried into effect without increasing the risk of a rapid and continuing increase in the level of costs and prices.

The Chancellor is necessarily confronted with a choice of evils. A moderate disinflationary policy undertaken with the object of facilitating the diversion of resources to exports and to defence may, as we have suggested, lead us straight into a ' cost inflation ', which in its turn might hamper the attainment of the desired objectives. And even the attempt to close the ' gap ' might not succeed. Quite apart from its effects on the distribution of income, it would probably reduce still further the public's confidence in the currency, and thus their desire to save. Moreover, given the present immobility of labour and shortages of key materials, ' disinflation ' would probably also cause quite considerable patches of unemployment which might well persist for some time. A really strong deflationary policy might reduce the risk of ' cost inflation ' if it went so far that the resulting fall in demand brought to an end the sellers' market in labour, for in this case it would be far more difficult for wage- and salary-earners to gain compensating increases in income when the price-level rose. Its effectiveness is however uncertain, because those employed in the heavy industries would in any case still have a strong bargaining position; and its cost, in terms of purposeless unemployment[2] and social bitterness and unrest, would clearly be most formidable. Finally there is a third possibility—to keep down the price level by increasing subsidies, while relying on the use of direct controls to repress demand. This carries with it the risk that a continuing excess of demand over supply in the markets for consumers' goods will, despite further controls (such as the extention of consumer rationing), frustrate the attempt to achieve solvency and increase our military strength. The risk can, however, be over-emphasised. Not only is it possible (as we have suggested) that shortages of particular goods will in some cases increase savings: it may also be the case that some of the demand which does ' spill over ' from goods in short supply will be directed towards goods like beer and tobacco. These are so heavily taxed that they can absorb expenditures without making any considerable claims on scarce resources. These developments would mitigate the problems of excessive demand in the consumer market, but it would be altogether too optimistic to anticipate that severe strains will not appear in the ' free ' markets for, say, vegetables, or gas and electricity. The choice between evils remains, and it may be added that a similar choice will be necessary in 1953 and 1954, unless output increases at a far more rapid pace or there is a spectacular and lasting improvement in the terms of trade; for the rise in defence expenditure seems likely to continue, and it will not be possible again to offset this by reducing investment in fixed capital and by running down stocks.

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[1] It would be possible to raise more from income-tax, but to reduce purchasing power *much* would involve reducing allowances and lowering the exemption limit. This would of course make income-tax more regressive in its incidence.

[2] ' Purposeless ' in the sense that it would contribute little to the task of shifting resources so as to increase exports and the production of armaments.

The choice between these alternative policies is of course a political one, which cannot be decided on economic grounds alone. Moreover, it would be misleading to suggest that the alternatives are clear-cut and mutually exclusive: one possible course of action is to combine moderate disinflation with some extension of direct controls. Finally, it would be even more misleading to imply that the sole task of economic policy is to make a reasoned choice between these different budgetary policies. It is at least as important to take more direct measures to redistribute labour, and to get rid of the shortages which are at present handicapping British industry.

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ERRATA

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p. 45. After title add : (*Figures in all tables are £m., at annual rates*).

p. 48. Table III. Item 6. For *Goss* read *Gross.*

p. 50. Table IV. Col. 3. Add 1950 after *1951* as % *of*. Table V. Col. 2. Heading should be *1951*, not *1950*. Col. 3. For *9151* read *1951*.

p. 53. Table VI. Col. 2. Last item should be *—490*. Col. 7. Item 4. For *8890* read *9800*.

p. 54. Table VII. Item 3. Delete *Current.*

p. 59. Second line in section *b*. For *flationary* read *inflationary*.